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THE GENUS COCHLORHINUS, UHLER, AND ITS ALLIES (JASSIDÆ).

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Some time ago Dr. Uhler was kind enough to lend me the types of *C. pluto* for study in connection with some allied material from the National Museum. This new material, while generically distinct, is so closely allied to *Cochlorhinus* in many ways, and at the same time possessing more nearly the typical Acocephaline characters, that it is now possible to assign this unique genus to an approximately correct position in the group, and give its characters from a comparative standpoint.

It is apparently a rare form, as the three original females taken more than twenty-five years ago are the only known specimens of the species. To make this nondescript form more accessible to the workers in the group, and as a basis for the comparisons in the descriptions that follow, it has been thought best to give a comparative description of the genus and species, and also a figure of the type, together with its more important details.

Genus COCHLORHINUS, Uhler.

Uhler, Bull. U. S. Geol. and Geog. Surv. II., p. 358, 1876. Van Duzee Cat., p. 289.

Related to *Acocephalus*, but quite distinct; vertex slightly longer than broad, acutely angled, disc flat, with the margins slightly elevated, ocelli on the margin almost one-third the distance to the apex. Face retreating, acutely angled with vertex, concave in profile. Front narrow, convex, a distinct ridge extending to the apex, either side of which the margin is depressed and slightly foliaceous. Pronotum transverse, coarsely transversely rugulose, the margins nearly parallel, the anterior slightly more curved. Elytra coriaceous, the nervures raised, apical margin broadly rounding, with a narrow appendix; venation definite, two cross nervures

between the sectors, three anteapical cells, the outer one usually stylated at its apex; five apical cells, the first triangular, the three following broadly wedge-shaped, and the fifth similar to the anteapical cells; their bases and the base of the fifth apical, which is usually either a forked or double nervure, broadly embossed with white obscuring the actual course of the nervures.

The flat vertex with its slight margin, the coriaceous elytra with the raised nervures, and the ocelli distant from the eyes, will place this in the *Acocephalinae*; at the same time the whole vertex and front strongly suggest the genus *Platymetopius*, and the pattern of venation approaches that found in some species of that genus. Whether this indicates relationship or similar lines of development can be more easily answered when the habits and life-history have been studied, and other of its relatives have been found.

Cochlorhinus pluto, Uhler. Plate 2, fig. 1.—Elongate, subparallel; vertex acutely angled, the apex produced. Black, with an irregular band on the elytra behind the middle, and a triangle across the face, white. Length, 6 mm.; width, almost 2 mm.

Genus UHLERIELLA, n. gen.

Resembling *Acocephalus* in form and general appearance, but with the ocelli on the sharp vertex margin, and the venation quite distinct and resembling that of *Cochlorhinus*. Vertex slightly, obtusely angled, nearly half wider than long in the female, still shorter in the male, not quite as long as the pronotum, disc sloping, the margin flat or slightly upturned; ocelli on the margin not quite twice as far from the apex as from the eyes. Face slightly, evenly rounding, front wedge-shaped, the margins nearly straight; in profile straight or slightly convex, never concave nor with a median ridge. Clypeus parallel margined, a trifle rounding at apex. Pronotum as in *Cochlorhinus*; lateral margins rounding almost from eyes, posterior margin emarginate. Elytra rather broad, varying from coriaceous to subhyaline, slightly obliquely truncate posteriorly, with the angles rounded; venation resembling that of *Cochlorhinus*, the outer anteapical usually stylated and with two slightly divergent nervures from the apex to the costa, these nervures, and often forkings of the sectors, obscured by the white embossing.

Type *U. Coquilletti*, Van Duzee.

In the general plan of venation and the white embossing, the shape of the pronotum and the transverse light band on the face this genus

approaches closely to *Cochlorhinus*, but in the shape of the vertex and front, which are the dominant characters in this group, it is widely divergent, and approaches most closely to *Acocephalus*, from which, however, the position of ocelli and venation renders it quite distinct.

KEY TO THE SPECIES.

- A Elytra short and stout, a transverse white band across the bases of the anteapical cells reaching the costa, outer anteapical stylate, its outer nervure straight or slightly rounding before the juncture. Face half or more than half black.
- B Vertex and pronotum with alternate bands of black and light. Elytra with the nervures and transverse bands light. Male plates individually rounding at apex. . . *Coquilletti*, V.D.
- BB Black except for the transverse band on the elytra and dot at apex. Male plates acute at apex. *stygica*, n. sp.
- AA Elytra longer and narrower, without transverse white marking, and lacking the second cross nervure; outer anteapical cell angled out nearly to the costa. Face more than half light. *signata*, n. sp.
- Uhleriella Coquilletti*, Van Duzee. Plate 2, fig. 2.—*Deltocephalus Coquilletti*, Van Duzee, Ent. Americ., VI., p. 95, 1890.—Cat. p. 293. Form of *stygica* nearly, but broader and with more flaring elytra; vertex and pronotum of same form and colour pattern as in *signata*, elytra broad, clavus black with the nervures broadly light, corium brown, the nervures narrowly light, an oblique band across the first cross nervure, a transverse band across the second, a band across the base of the apical cells forked at each end, and the narrow apical margin, milk white.

This species is somewhat intermediate in form between the two following and by itself might not be recognized as being related to *Cochlorhinus*, but when compared with *stygica* this relation is at once evident.

Uhleriella stygica, n. sp. Plate 2, fig. 3.—Form of *Coquilletti* nearly, slightly smaller and with a longer and more rounding vertex. Shining black, a transverse band on elytra and another on face, white. Length, ♀ 4.5 mm., ♂ 4 mm.; width, 1.5 mm.

Vertex slightly sloping, transversely depressed, the margin sharp, half wider than long in female, almost twice as wide in the male, slightly obtusely angled, with the apex rounded off. Pronotum distinctly transversely rugose; elytra coriaceous, but little longer than body, compressed at tip; venation resembling that of *C. pluto*.

Colour: black above, a raised transverse band extending from the costa across the bases of the anteapical cells and running out a little on each nervure, milky white; the tip of the fourth apical nervure is also white. Below black, a broad crescentiform band across the face, the tibiae and tips of all the femora, yellowish white.

Genitalia: female segment nearly twice as long as the penultimate, posterior margin rounding, with a slight median emargination. Male valve roundly triangular, about as long as the ultimate segment; plates broad, roundly triangular with the apices acute, nearly three times the length of the valve.

Described from eight specimens received from the National Museum; from Kern Co., Calif. Coquillett collector.

Uhleriella signata, n. sp. Plate 2, fig. 4.—Closely resembling *Coquilletti*, larger and with longer elytra, pattern of marking similar, but without the two white bands on elytra. Length, 5–5.5 mm.; width, 1.75 mm.

Vertex slightly sloping, flat or slightly transversely depressed, not quite twice wider than long, a little over half as long against eye as on middle; face as in *Coquilletti*, front narrow, wedge-shaped. Pronotum more strongly convex in front than in *Coquilletti*, emarginate posteriorly with the outer angles rounded. Elytra long and rather narrow, subhyaline towards the margins, the apex roundly truncate. Venation resembling *Coquilletti* in general pattern, but with the outer anteapical cell angled out nearly to the costa and lacking the white bands on the cross nervures, two apical nervures arise from the exposed outer face of the central anteapical cell and run nearly parallel to the costa, forming a long narrow cell; the second cross nervure wanting.

Colour: vertex pale yellow, a transverse band just before the middle, parallel with the posterior margin, testaceous brown. Pronotum with four transverse bands parallel with the anterior margin, the anterior one testaceous brown, the next pale creamy or slightly greenish yellow, the third, which does not reach the lateral margins, light testaceous, posterior margin greenish white. Scutellum pale yellow, with large triangular black spots in the basal angles and a pair of interrupted stripes across the disc. Elytra brown, darkest on the clavus, shading out to subhyaline along the margin, the sutural margin and claval sutures narrowly light, nervures, except the apical ones, broadly so; apical margin narrowly milk white, bordered inside by a wider smoky band, the bases of the

apical cells hyaline white in sharp contrast. Face pale yellow, a black band across between the eyes, narrowed on the front and emitting a line under the vertex margin, clypeus and lower third of loræ, black.

Genitalia: female segment long and narrow, over twice the length of the penultimate, narrowing posteriorly and terminating in two rounding lobes separated by a broad notch; male valve obtusely triangular, as long as the ultimate segment, plates broader than the valve, long triangular, over four times as long as the valve, their margins clothed with long silky hairs.

Described from eleven specimens from the National Museum; from Los Angeles Co., Calif. Coquillett collector.

In shape and colour marking of vertex and pronotum this species and *Coquilletti* are almost identical, but the venation of the elytra as well as its colour pattern is quite different, and the genitalia are distinctive. Those who consider the presence or absence of the second cross nervure a good generic character would place these two species in different genera.

Genus HULERIA, n. gen.

Form long and narrow, almost parallel margined, vertex longer and more angulate than in *Parabolocratus*, as long as its basal width, one-third longer than the pronotum in the female, two and one-half times as long on middle as against eye, disc flat, the margins inclined to be elevated; ocelli on the margin about one-fourth the distance from eye to apex. Face in profile perfectly flat, retreating as strongly as in *Hecalus*, transversely convex; the front broad above, the margins straight from the ocelli to the rather small, parallel margined, clypeus. The upper part of the front has a quite definite median ridge, which becomes narrower and more elevated as it approaches the apex of vertex, leaving a narrow compressed margin to the vertex. Pronotum twice wider than long, the anterior and posterior margins nearly parallel, lateral margins straight; elytra very long and narrow, evenly rounding at the apex, with a very narrow appendix; venation as in *Thamnotettix*, the anteapical cells very long, extending more than half their length beyond the apex of clavus, apical cells very short and regular.

Type of the genus *H. 4-punctata*.

The elevated ridge on front and general shape of face and vertex are very similar to *Cochlorhinus*, but the venation and general shape of the elytra are quite different.

Huleria 4-punctata, n. sp. Plate 2, fig. 5.—Pale dirty yellow; four spots across the vertex in front of the eyes; two irregular stripes on pronotum, and a stripe under the edge of the vertex, black. Length, 7 mm.; width, 1.5 mm.

Vertex acutely angled, with the apex bluntly rounding, slightly upturned; eyes small, slightly wider than pronotum. Pronotum transverse, roundly or slightly angularly emarginate posteriorly. Elytra with the nervures distinct, two claval nervures, long, straight and parallel with the suture; but one cross nervure between the sectors, the inner antepical cell much longer than outer, often an extra apical nervure arising from the apex of the outer antepical, forming a small subquadrate cell.

Colour: vertex pale yellow, a pair of angular black spots on the margin between the ocelli and eyes, another pair on the disc slightly in advance of these; eyes reddish brown. Pronotum dirty straw, a wavy black stripe running back from the inner corner of each eye, but not reaching the posterior margin; elytra dirty straw, slightly tinged with brown, the nervures and margins pale and quite distinct. Face and below pale creamy yellow, a parallel margined black stripe half its own width below the margin of the vertex, and extending back under the eye.

Genitalia: female segment nearly half longer than penultimate, narrowing posteriorly; posterior margin slightly rounding, with an abrupt subquadrate notch; a short strap-shaped tooth almost fills this notch (a quite marked median carina in this specimen); male valve as broad as the ultimate segment and a little longer, posterior margin evenly rounding, plates nearly as wide as the valve and three times as long, roundly narrowing two thirds of the distance, and then produced as two finger-like tips, margined with short weak hairs.

Described from one female and two males from the National Museum collection, labelled "Los Angeles Co., Calif. Coquillett collector."

EXPLANATION OF PLATE 2.

Fig. 1.—*Cochlorhinus pluto*, Uhler. Female from type.

a, face; b, ♀ genitalia; c, ♂ genitalia; d, elytron, showing venation and embossing; e, profile of face; f, head and pronotum of co-type.

Fig. 2.—Elytron of *Uhleriella Coquilletti*, Van Duzee, showing venation and pattern of marking. c, ♂ genitalia.

